



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,916	02/04/2004	Ismat Ali Abu-Isa	DP-309400	3491

7590 11/02/2006

JIMMY L. FUNKE  
DELPHI TECHNOLOGIES, INC.  
Legal Staff, Mail Code: 480-410-202  
P.O. Box 5052  
Troy, MI 48007-5052

EXAMINER
----------

SANDERS, KRIELLION ANTIONETTE

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/771,916

### Applicant(s)

ABU-ISA, ISMAT ALI

### Examiner

Kriellion A. Sanders

### Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/22/06 has been entered.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-11, 13-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abu-Isa et al, US Patent No. 5834535 in view of Lee et al, US Patent No. 5,643,999.

This rejection is repeated for reasons of record. Applicant's invention pertains to an intumescent composition comprising per 100 parts by weight:

20-45 parts of a polymer mixture of a high-density polyethylene and an olefinic copolymer

5-25 parts of a nitrogenous gas-generating agent

10-35 parts of a water vapor-generating agent

1-35 parts of an antioxidant

0-15 parts of a reinforcing agent

Abu-Isa et al, U.S. Patent No. 5834535, discloses intumescent compositions useful as heat barriers, that comprise high density polyethylene (HDPE) and/or chlorinated polyethylene (CPE). The high density polyethylene resin may be mixed with a chlorinated polyethylene elastomer and/or a silicone rubber in such a proportion as to obtain desired physical properties in a molded part. Patentee indicates that when the properties of a thermoplastic elastomer are not required, either HDPE or CPE may be used alone as the resin matrix. The polyethylene constituent of the compositions has a density in the range of 0.940 to 0.970 g/cm<sup>3</sup>. The compositions are used to form thermoplastic moldings.

Patentee further indicates that any suitably compatible stabilizer may be used with HDPE and/or CPE for protection against heat and oxygen. Suitable antioxidants include a system consisting of distearylthiodipropionate (DSTDP) and a butylated reaction product of p-cresol and dicyclopentadiene.

A gas-generating foaming agent is also included in the compositions. These agents are used to foam the polymeric matrix before it is consumed by fire. The residue that remains after burning of most organic material will have a porous char structure and will thus be an effective thermal barrier. Two preferred gas-generating agents used in the invention are ammonium dihydrogen phosphate, and ammonium polyphosphate. Hydrated alumina and hydrated magnesia are also preferred because they emit water vapor when heated.

Patentee further employs a char former in the composition. Any suitable compatible starch or other carbohydrate may be used in the moldable compositions to form heavy char when

Art Unit: 1714

exposed to fire. Polyhydric alcohols also perform the same function. A preferred char former is monopentaerythritol or dipentaerythritol.

Patentee further states that other ingredients are beneficially added to the intumescent moldable material of the invention. The first is a filler material consisting of glass fibers, mica particles and/or titanium oxide powder. These fillers help strengthen the molding and develop a strong structure of the material after intumescenting. The second ingredient is antimony oxide, which imparts fire-retardant properties to the intumescent material and hence slows down the burning process. The components of the patented invention are used in amounts that overlap with applicant's amounts. See Table 1. Also see col. 1, line 55 through col. 3, line 35, col. 4, line 13 through col. 5, line 56 and col. 17, lines 1-7.

The patented compositions differ from applicant's in that they do not include a polyolefin copolymer as specified in the present claims or relate to thermoset moldings.

Lee et al discloses adhesive compositions useful as heat barriers comprising:

(A) 70-95 weight %, based on (A) plus (B), of a blend of polyethylene polymers, the blend consisting essentially of:

(a) 5-40 weight percent, based on (A), of a first polyethylene polymer having a density of 0.86 to below 0.91 g/cc. This includes copolymers of ethylene and octane.

(b) 60-95 weight percent, based on (A), of a second polyethylene polymer having a density of 0.910 to 0.935 g/cc. This may include up to 1% of high density polyethylene.

Art Unit: 1714

(B) 5-30 percent based on (A) plus (B), of a hydrocarbon elastomer having a heat of fusion based on DSC of less than 25 joules/gram. This includes ethylene propylene copolymers for example.

The compositions of Lee et al are said to have excellent adhesion capabilities and are useful for forming heat-sealing layers in, for example, packaging applications.

It would have been obvious to one of ordinary skill in the art seeking to improve the adhesion of the resin binder in the intumescent compositions of Abu-Isa et al, to utilize a polymer mixture of Lee et al as opposed to the single polyolefin component of Abu-Isa et al, absent a clear showing of unexpected results. Applicant's comparative data in the specification does not indicate that anything unexpected is achieved by using the presently claimed olefin blend of polymers as opposed to the individual polyolefin of Abu-Isa et al.

### ***Response to Arguments***

Applicant's arguments filed August 22, 2006 have been fully considered but they are not persuasive. Originally, applicant's claims indicated that as little as 0.0 parts by weight of an olefinic copolymer is to be employed in the composition. Applicant's claims as now amended do not indicate any particular concentration of the a-olefin copolymer to be employed in the present fire-retardant system. However, applicant's specification at paragraph [0013] indicates that the olefinic copolymer is present in an amount of 0-15 parts by weight of the total polymeric binder. This weight range of copolymer suggests that the copolymer is not an essential component of the invention. Applicant's claimed invention may include an infinitesimal amount of the olefin copolymer. Applicant's data in the specification indicates nothing of an unexpected

nature in the inclusion of the olefin copolymer. Applicant's arguments have been directed to the secondary reference to Lee et al. However, Lee et al has been relied upon to support that the specific copolymers of ethylene and octane are known in the art and would be obvious to utilize in order to improve the adhesion of the resin binder in the intumescent compositions of Abu-Isa et al.

3. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

4. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Double Patenting***

5. Applicant's terminal disclaimer filed April 21, 2006 is acknowledged. The double patenting rejection will be maintained until such time as the terminal disclaimer is approved by the PTO.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application

Art Unit: 1714

claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-3 and 5-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 of copending Application No. 10/771,972. Although the conflicting claims are not identical, they are not patentably distinct from each other because the compositions of the present application are intended for moldings. The molded compositions of the '972 application require the specific molded compositions of the present application. The '972 moldings represent obvious use for the presently claimed compositions.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Conclusion*

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action



Art Unit: 1714

after the filing of a request for continued examination and the submission under 37 CFR 1.114.

See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kriellion A. Sanders whose telephone number is 571-272-1122. The examiner can normally be reached on Monday through Thursday 6:30-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1714

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kriellion A. Sanders  
Primary Examiner  
Art Unit 1714

ks